

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV544978893US, in an envelope addressed to: MS PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: 7-19-2005 Signature: Georgia Matos  
(Georgia Matos)

Patent  
Docket No. 562492004100  
Client Reference No. 02-0075-IPW

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Peter B. DARWOOD et al.

Serial No.: 10/531,151

International Filing Date: October 24, 2003

For: METHOD AND ARRANGEMENT FOR  
CHANNEL ESTIMATION IN A  
WIRELESS COMMUNICATION  
SYSTEM

Examiner: Not Yet Assigned

Group Art Unit: Not Yet Assigned

**INFORMATION DISCLOSURE  
STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98**

MS PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. §1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08a/b. Copies of foreign documents and non-patent literature are submitted herewith. The Examiner is requested to make these documents of record.

This Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.
- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required. However, if applicable, a certification under 37 C.F.R. § 1.97 (e)(1) has been provided.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
  - ☐ A fee is required. A check in the amount of \_\_\_ is enclosed.
  - ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above; accordingly, no fee is believed to be due.
- ☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.
  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a check in the amount of \_\_\_ is enclosed.
  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided above and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.)

Applicants would appreciate the Examiner initialing and returning the Form PTO/SB/08a/b, indicating that the information has been considered and made of record herein.

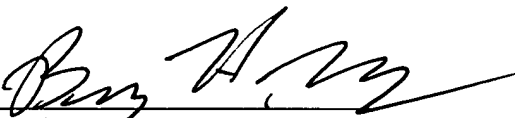
The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 and § 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist;

(iii) the information, protocols, results and the like reported by third parties are accurate or enabling;  
or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief (such as payment of a fee under 37 C.F.R. § 1.17 (p)) is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petition and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing 562492004100.

Dated: July 19, 2005

Respectfully submitted,

By   
Bryan H. Wyman

Registration No.: 48,049  
MORRISON & FOERSTER LLP  
755 Page Mill Road  
Palo Alto, California 94304-1018  
(650) 813-5779

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/531,151
				Filing Date (Int'l)	October 24, 2003
				First Named Inventor	Peter B. DARWOOD
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	562492004100

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	US-2002/0126220-A1	09-12-2002	Wilson et al.	
	2.	US-5,627,826-A	05-06-1997	Kameda et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	1 <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	3.	EP-0 551 803-A1, B1	07-21-1993	Telefonaktiebolaget L M Ericsson		
	4.	EP-0 827 295-A2, A3	03-04-1998	Siemens AG		
	5.	EP-0 994 570-A1	04-19-2000	Sony International (Europe) GMBH		
	6.	EP-1 235 360-A1	08-28-2002	Matsushita Electric Industrial Co., Ltd.		
	7.	WO-02/082705-A1	10-17-2002	Linkair Communications, Inc.		
	8.	WO-2004/036857-A1	04-29-2004	IPWireless, Inc.		

\*EXAMINER: Initial if information considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
	9.	3GPP (March 2002). "3rd Generation Partnership Project; Technical Specification Group Radio Access Networks; BS Radio Transmission and Reception (TDD) (Release 1999)," 3GPP TS 25.105, V3.10.0, pp. 1-39.		
	10.	3GPP (March 2002). "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD) (Release 1999)," 3GPP TS 25.221, V3.10.0, pp. 1-51.		
	11.	ETSI (December 2000). "Universal Mobile Telecommunications System (UMTS); UTRA (BS) TDD; Radio Transmission and Reception (3GPP TS 25.105 version 3.5.0 Release 1999)," ETSI TS 125 105 V3.5.0 pp. 1-18.		
	12.	Hosur, S. et al. (September 2000). "Design of Cyclically Permutable Codes for PN Code Acquisition in WCDMA TDD Mode," <i>IEEE VTS Fall VTC2000 52nd Vehicular Technology Conference</i> Boston, MA, September 24-28, 2000, pp. 581-587.		
	13.	Koukourlis, S.S. et al. (March 1995). "On the Capacity of an FFH-CDMA Packet Radio Network," <i>IEEE Transactions on Broadcasting</i> 41(1):17-22.		
	14.	Lei, M. et al. (June 2002). "Channel Estimation Based on Midamble in UTRA-TDD System," <i>Proceeding of the International Conference on Telecommunications 2002</i> , Beijing, China, June 23-26, 2002, 2:434-438.		
	15.	Search Report for GB Application No. 0224757.5 filed October 24, 2002, mailed April 28, 2003, one page.		
	16.	Sills, J.A. (August 2002). "Adaptive Power Amplifier Linearization by Digital Pre-Distortion Using Genetic Algorithms," <i>IEEE Radio and Wireless Conference</i> , Boston, MA, August 11-14,		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

pa-993755

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/531,151
				Filing Date (Int'l)	October 24, 2003
				First Named Inventor	Peter B. DARWOOD
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	562492004100

		2002, pp. 229-232.	
	17.	Springer, A. et al. (September 2001). "Digital Predistortion-Based Power Amplifier Linearization for UMTS," <i>European Conference on Wireless Technology</i> , London, England, September 27-28, 2001, pp. 185-188.	
	18.	Steiner, B. et al. (September 1993). "Uplink Channel Estimation in Synchronous CDMA Mobile Radio Systems with Joint Detection," <i>The 4th International Symposium on Personal, Indoor and Mobile Radio Communications</i> Yokohama, JP, September 8-11, 1993, pp. 123-127.	
	19.	Steiner, B. et al. (Jan.-Feb. 1994). "Optimum and Suboptimum Channel Estimation for the Uplink of CDMA Mobile Radio Systems with Joint Detection," <i>European Transactions on Telecommunications and Related Technologies</i> 5(1):39-50.	
	20.	Väänänen, O. et al. (September 2002). "Reducing the Peak to Average Ratio of Multicarrier GSM and EDGE Signals," <i>13th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications</i> , Lisboa, PT, September 15-18, 2002, 1:115-119.	

\*EXAMINER: Initial if information considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--